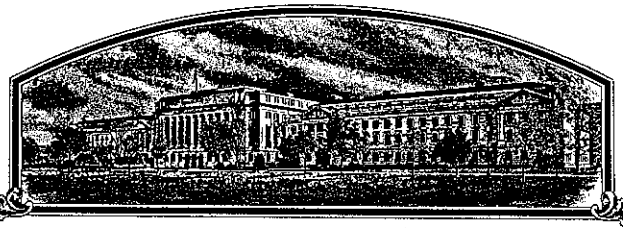


No. 8800147

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Hyperformer Seed Company

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED NOVEL VARIETY OF SEXUALLY REPRODUCED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF *eighteen* YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

SOYBEAN

'HSC B2J'

In Testimony Whereof, *I have hereunto set my hand and caused the seal of the* Plant Variety Protection Office *to be affixed at the City of* Washington, D. C. *this* 30th *day of* November *in the year of our Lord one thousand nine hundred and* eighty-eight.

Attest:

Kenneth A. Evans
Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

Richard E. Lyng
Secretary of Agriculture

APPROVAL EXPIRES 2-28-88

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE

FORM APPROVED: OMB NO. 0581-0055

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

(Instructions on reverse)

1. NAME OF APPLICANT(S)
Hyperformer Seed Company

2. TEMPORARY DESIGNATION
B2-JQ

3. VARIETY NAME
HSC B2J

4. ADDRESS *(Street and No. or R.F.D. No., City, State, and Zip Code)*
Suite 3200, Clark Tower
5100 Poplar Avenue
Memphis, Tennessee 38137

5. PHONE *(Include area code)*
800-328-7174
901-761-0050

FOR OFFICIAL USE ONLY

PVPO NUMBER
8800147

6. GENUS AND SPECIES NAME
Glycine max

7. FAMILY NAME *(Botanical)*
Leguminosae

FILING
DATE: May 9, 1988
TIME: 1:30 ☐ A.M. ☑ P.M.

8. KIND NAME
Soybeans

9. DATE OF DETERMINATION
June 1987

FEES RECEIVED
AMOUNT FOR FILING: $ 1800.00
DATE: May 3, 1988
AMOUNT FOR CERTIFICATE: $ 2000.00
DATE: Oct. 18, 1988

10. IF THE APPLICANT NAMED IS NOT A "PERSON," GIVE FORM OF ORGANIZATION *(Corporation, partnership, association, etc.)*
Corporation

11. IF INCORPORATED, GIVE STATE OF INCORPORATION
Delaware

12. DATE OF INCORPORATION
1977

13. NAME AND ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS
Dr. George A. Berger
Eagle Seed Company
P.O. Box 308
Weiner, Arkansas 72479
PHONE *(Include area code)*: 501-684-7377

14. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED

a. ☒ Exhibit A, Origin and Breeding History of the Variety *(See Section 52 of the Plant Variety Protection Act.)*
b. ☒ Exhibit B, Novelty Statement.
c. ☒ Exhibit C, Objective Description of Variety *(Request form from Plant Variety Protection Office.)*
d. ☒ Exhibit D, Additional Description of Variety.
e. ☒ Exhibit E, Statement of the Basis of Applicant's Ownership.

15. DOES THE APPLICANT(S) SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED? *(See Section 83(a) of the Plant Variety Protection Act.)*
☐ Yes *(If "Yes," answer items 16 and 17 below)* ☒ No

16. DOES THE APPLICANT(S) SPECIFY THAT THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS?
☐ Yes ☒ No

17. IF "YES" TO ITEM 16, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED?
☐ Foundation ☐ Registered ☐ Certified

18. DID THE APPLICANT(S) PREVIOUSLY FILE FOR PROTECTION OF THE VARIETY IN THE U.S.?
☐ Yes *(If "Yes," give date)*
☒ No

19. HAS THE VARIETY BEEN RELEASED, OFFERED FOR SALE, OR MARKETED IN THE U.S. OR OTHER COUNTRIES ?
☒ Yes *(If "Yes," give names of countries and dates)*
Limited Test Market in U.S. in June 1987
☐ No

20. The applicant(s) declare(s) that a viable sample of basic seeds of this variety will be furnished with the application and will be replenished upon request in accordance with such regulations as may be applicable.

The undersigned applicant(s) is (are) the owner(s) of this sexually reproduced novel plant variety, and believe(s) that the variety is distinct, uniform, and stable as required in Section 41, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act.

Applicant(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.

SIGNATURE OF APPLICANT
George A. Berger
DATE
April 15, 1988

SIGNATURE OF APPLICANT
DATE

1

FORM LS-470 (3-86) *Edition of 7-84 obsolete.*

EXHIBIT A

ORIGIN AND BREEDING HISTORY OF THE VARIETY HSC B2J

HSC B2J was a single F_4 plant selection from the cross J 74-116 X D 70-3186. J 74-116 has the same parentage as Bedford and D 70-3186, an early subline from Centennial.

1. This plant was selected at Weiner, Arkansas, in 1981. Seed yield was in the top 10% of all plants selected including the check varieties. Preliminary yield trials were conducted in 1982 and 1983 at the Weiner research site. This line exceeded the yields of each of the two check varieties Forrest and Centennial in both years of the trials. A small increase was started in 1984.

2. Advanced Trials were conducted in 1985, 1986 and 1987. Yield was sufficient to increase this line in 1986 and 1987.

YIELD SUMMARY

VARIETY NAME	1985 ARKANSAS	1986 ARKANSAS	1986 MISSOURI	1987 ARKANSAS	1987 MISSISSIPPI	1987 TEXAS
HSC B2J	42	40	50	36	26	27
Bedford	36	35	47	39	27	27

1985 Arkansas data taken at one location.
1986 and 1987 Arkansas and 1987 Mississippi data are averages over eleven locations respectively.
1986 Missouri data is two location average.
1987 Texas data taken at one location.

3. HSC B2J has been rogued for offtypes in the vegetative state. An occassional (.02%) tall offtype will be found. Seed will have a few dark black hila types (.01%). Seed coat will occassionally show a greenish color, especially under late planting.

4. Other variances which are also acceptable and predictable are white flower color 1/5000 and gray pubescence 1/6000. These characters are stable and can be maintained and reproduced through seed without changing as has been exhibited in three generations of increase.

EXHIBIT B

NOVELTY STATEMENT

1. Soybean cyst nematode reaction to SCN races 2, 3, 5, and also an unknown race which reacted differently on the differentials than any presently defined race and is designated as "race undefined" (RU) is given in the following table and indicates that HSC B2J and Bedford react differently to the different SCN races.

1986 2/

SOYBEAN CULTIVAR REACTION TO FOUR RACES OF SOYBEAN CYST NEMATODES *

VARIETY	R2	R3	R5	RU 1/
HSC B2J	59	1	38	14
Bedford	25	1	90	25

1/ This race has been described and proposed to be designated as race 6. Official designation and publication of the description has not been made.

2/ This table shows the reproduction index which is calculated by dividing the average number of cysts counted on the variety by the average number of cysts counted on a susceptable check cultivar, which is usually Lee.

* Cyst nematode screening performed by Dr. R.W. Riggs, Department of Plant Pathology, College of Agriculture, University of Arkansas, Fayetteville, Arkansas.

2. Bedford is resistant to cyst nematode, race 3 and race 4. HSC B2J is resistant to race 3 and susceptable to race 4 cyst nematode. Greenhouse nematode ratings were provided by R.S. Hussey and L.L. Finnerty, The Georgia Agricultural Experiment Stations, College of Agriculture, University of Georgia.

3. Bedford has white floweres and HSC B2J has purple flowers.

FORM APPROVED: OMB NO. 0581-0055

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
LIVESTOCK, MEAT, GRAIN & SEED DIVISION
PLANT VARIETY PROTECTION OFFICE
BELTSVILLE, MARYLAND 20705

EXHIBIT C
(Soybean)

OBJECTIVE DESCRIPTION OF VARIETY
SOYBEAN (Glycine max L.*)*

NAME OF APPLICANT(S)	TEMPORARY DESIGNATION	VARIETY NAME
Hyperformer Seed Company	HB 2J-E4-6 or H2-JQ	HSC B2J

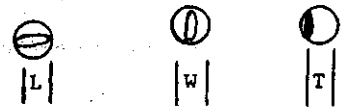
ADDRESS *(Street and No., or R.F.D. No., City, State, and Zip Code)*
Suite 3200, Clark Tower
5100 Poplar Avenue
Memphis, Tennessee 38137

FOR OFFICIAL USE ONLY
PVPO NUMBER
8300147

Choose the appropriate response which characterizes the variety in the features described below. When the number of significant digits in your answer is fewer than the number of boxes provided, place a zero in the first box when number is 9 or less (e.g., [0][9]). Starred characters ★ are considered fundamental to an adequate soybean variety description. Other characters should be described when information is available.

1. SEED SHAPE:

[4]



1 = Spherical (L/W, L/T, and T/W ratios = < 1.2)
2 = Spherical Flattened (L/W ratio > 1.2; L/T ratio = < 1.2)
3 = Elongate (L/T ratio > 1.2; T/W = < 1.2)
4 = Elongate Flattened (L/T ratio > 1.2; T/W > 1.2)

★ **2. SEED COAT COLOR: (Mature Seed)**

[1] 1 = Yellow 2 = Green 3 = Brown 4 = Black 5 = Other *(Specify)* _____

3. SEED COAT LUSTER: (Mature Hand Shelled Seed)

[1] 1 = Dull ('Corsoy 79'; 'Braxton') 2 = Shiny ('Nebsoy'; 'Gasoy 17')

★ **4. SEED SIZE: (Mature Seed)**

[1][5] Grams per 100 seeds

★ **5. HILUM COLOR: (Mature Seed)**

[6] 1 = Buff 2 = Yellow 3 = Brown 4 = Gray 5 = Imperfect Black 6 = Black 7 = Other *(Specify)* _____

★ **6. COTYLEDON COLOR: (Mature Seed)**

[1] 1 = Yellow 2 = Green

★ **7. SEED PROTEIN PEROXIDASE ACTIVITY:**

[2] 1 = Low 2 = High

★ **8. SEED PROTEIN ELECTROPHORETIC BAND:**

[0] 1 = Type A ($SP1^a$) 2 = Type B ($SP1^b$)

★ **9. HYPOCOTYL COLOR:**

[3] 1 = Green only ('Evans'; 'Davis') 2 = Green with bronze band below cotyledons ('Woodworth'; 'Tracy')
3 = Light Purple below cotyledons ('Beeson'; 'Pickett 71')
4 = Dark Purple extending to unifoliate leaves ('Hodgson'; 'Coker Hampton 266A')

★ **10. LEAFLET SHAPE:**

[3] 1 = Lanceolate 2 = Oval 3 = Ovate 4 = Other *(Specify)* _____

11. LEAFLET SIZE:

[2] 1 = Small ('Amsoy 71'; 'A5312') 2 = Medium ('Corsoy 79'; 'Gasoy 17')
3 = Large ('Crawford'; 'Tracy')

12. LEAF COLOR:

[2] 1 = Light Green ('Weber'; 'York') 2 = Medium Green ('Corsoy 79'; 'Braxton')
3 = Dark Green ('Gnome'; 'Tracy')

★ **13. FLOWER COLOR:**

[2] 1 = White 2 = Purple 3 = White with purple throat

★ **14. POD COLOR:**

[1] 1 = Tan 2 = Brown 3 = Black

★ **15. PLANT PUBESCENCE COLOR:**

[2] 1 = Gray 2 = Brown (Tawny)

16. PLANT TYPES:

[2] 1 = Slender ('Essex'; 'Amsoy 71') 2 = Intermediate ('Amcor'; 'Braxton')
3 = Bushy ('Gnome'; 'Govan')

★ **17. PLANT HABIT:**

[1] 1 = Determinate ('Gnome'; 'Braxton') 2 = Semi-Determinate ('Will')
3 = Indeterminate ('Nebsoy'; 'Improved Pelican')

★ **18. MATURITY GROUP:**

[0][9] 1 = 000 2 = 00 3 = 0 4 = I 5 = II 6 = III 7 = IV 8 = V
9 = VI 10 = VII 11 = VIII 12 = IX 13 = X

★ **19. DISEASE REACTION: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)**

BACTERIAL DISEASES:

★ [R] Bacterial Pustule (*Xanthomonas phaseoli* var. *sojensis*)

★ [R] Bacterial Blight (*Pseudomonas glycinea*)

★ [R] Wildfire (*Pseudomonas tabaci*)

FUNGAL DISEASES:

★ [0] Brown Spot (*Septoria glycines*)

Frogeye Leaf Spot (*Cercospora sojina*)

★ [R] Race 1 [0] Race 2 [R] Race 3 [0] Race 4 [0] Race 5 [ ] Other (*Specify*) _____

[R] Target Spot (*Corynespora cassiicola*)

[R] Downy Mildew (*Peronospora trifoliorum* var. *manshurica*)

[R] Powdery Mildew (*Microsphaera diffusa*)

★ [0] Brown Stem Rot (*Cephalosporium gregatum*)

[S] Stem Canker (*Diaporthe phaseolorum* var. *caulivora*)

19. DISEASE REACTION: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant) (Continued)

FUNGAL DISEASES: (Continued)

★ [R] Pod and Stem Blight *(Diaporthe phaseolorum* var; *sojae)*

[R] Purple Seed Stain *(Cercospora kikuchii)*

[S] Rhizoctonia Root Rot *(Rhizoctonia solani)*

Phytophthora Rot *(Phytophthora megasperma* var. *sojae)*

★ [0] Race 1 [0] Race 2 [R] Race 3 [0] Race 4 [0] Race 5 [0] Race 6 [0] Race 7

[0] Race 8 [0] Race 9 [ ] Other *(Specify)* _____

VIRAL DISEASES:

[0] Bud Blight (Tobacco Ringspot Virus)

[0] Yellow Mosaic (Bean Yellow Mosaic Virus)

★ [0] Cowpea Mosaic (Cowpea Chlorotic Virus)

[0] Pod Mottle (Bean Pod Mottle Virus)

★ [0] Seed Mottle (Soybean Mosaic Virus)

NEMATODE DISEASES:

Soybean Cyst Nematode *(Heterodera glycines)*

★ [R] Race 1 [0] Race 2 [R] Race 3 [0] Race 4 [ ] Other *(Specify)* _____

[0] Lance Nematode *(Hoplolaimus Colombus)*

★ [R] Southern Root Knot Nematode *(Meloidogyne incognita)*

★ [0] Northern Root Knot Nematode *(Meloidogyne Hapla)*

[R] Peanut Root Knot Nematode *(Meloidogyne arenaria)*

[0] Reniform Nematode *(Rotylenchulus reniformis)*

[ ] OTHER DISEASE NOT ON FORM *(Specify):* _____

20. PHYSIOLOGICAL RESPONSES: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)

★ [0] Iron Chlorosis on Calcareous Soil

[ ] Other *(Specify)* _____

21. INSECT REACTION: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)

[0] Mexican Bean Beetle *(Epilachna varivestis)*

[0] Potato Leaf Hopper *(Empoasca fabae)*

[ ] Other *(Specify)* _____

22. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED.

CHARACTER	NAME OF VARIETY	CHARACTER	NAME OF VARIETY
Plant Shape	Bedford	Seed Coat Luster	Tracy M
Leaf Shape	Bedford	Seed Size	Wright
Leaf Color	Bedford	Seed Shape	Tracy M
Leaf Size	Bedford	Seedling Pigmentation	Pickett 71

23. GIVE DATA FOR SUBMITTED AND SIMILAR STANDARD VARIETY: Paired Comparison Data

VARIETY	NO. OF DAYS MATURITY	PLANT LODGING SCORE	CM PLANT HEIGHT	LEAFLET SIZE		SEED CONTENT		SEED SIZE G/100 SEEDS	NO. SEEDS/ POD
				CM Width	CM Length	% Protein	% Oil		
HSC B2J (Submitted)	132	3.0	97	0	0	0	0	15.0	0
Bedford (Name of Similar Variety)	128	3.0	107	0	0	0	0	12.4	0

PUBLICATIONS USEFUL AS REFERENCE AIDS FOR COMPLETING THIS FORM:

FST 126

1. Caldwell, B.E., ed. 1973. Soybeans: Improvement, Production, and Uses. Amer. Soc. Agron. Monograph No. 16.
2. Buttery, B.R. and R.I. Buzzell. 1968. Peroxidase activity in seeds of soybean varieties. Crop Sci., 8: 722-725.
3. Hymowitz, T. 1973. Electrophoretic analysis of SBTI-A_2 in the USDA soybean germplasm collection. Crop Sci., 13: 420-421.
4. Payne, R.C. and L.F. Morris. 1976. Differentiation of soybean cultivars by seedling pigmentation patterns. J. Seed Technol. 1: 1-19.

RECEIVED
MAY 3 - 1988
Protection

EXHIBIT D

ADDITIONAL DESCRIPTION OF HSC B2J SOYBEAN VARIETY

NAME OF VARIETY	COLOR OF..... POD	FLOWER	PUB.	HILA	MAT. GROUP	PLANT CHARACTERISTICS..... Ht.	Lod.	Type	Habit
HSC B2J	Tan	Purple	TN	Black	VI	31"	3	2	determinate
Bedford	Tan	White	TN	Black	V	38	3	1	determinate

HSC B2J is a medium tall, bushy variety in the early to mid-group VI maturity. It features good standability, purple flowers, tan pods, and tawny pubescence. Foliage is dense with medium-sized leaves, medium green in appearance. Seed is yellow with black hila and dull seed coat luster. However, variation is noticeable due to environmental effects.

EXHIBIT E

STATEMENT OF THE BASIS OF APPLICANTS OWNERSHIP

HSC B2J was bred and developed by Dr. George A. Berger who will serve as the applicant representative of Hyperformer Seed Company. Exclusive marketing rights are assigned to Hyperformer Seed Company by Dr. George Berger.